Credit Name: CSE 2140 2nd Language Programming
Assignment Name: Group Assignment Mastery
How has your program changed from planning to coding to now? Please explain?

PLANNING:

      I plan to Declare the variables, then prompt the user with the introduction messages introducing the program. Next I will prompt user for their name, and store the first letter of their last name. That letter will decide what group the person is put inside of, using an if statement. Depending on the groupnumber, the appropriate statement will print. If there are any errors in entering the name, an error message will display.

CODING:
1.

```java
//Declare the variables
String Fname;
String Lname;
char Letter1;
int groupNumber;

//prepare scanner for userinput later in program
    Scanner input = new Scanner(System.in);

//prompt user intro message
    System.out.println("This program will assign you a group based on your name!");

//prompt user for first and last name
    System.out.println("please enter your first name:");
    Fname = input.next();

    System.out.println("please enter your Last name:");
    Lname = input.next();
```

Variables are declared, scanner is setup for userinputs, introduction message explains the program to the user, finally user is prompted for first and last names.

2.

```java
Lname = input.next();

//pull out the first letter of the last name
    Letter1 = Character.toUpperCase(Lname.charAt(0));
```

The first letter of the last name is gathered and stored in the variable Letter1. This is done by setting Character.toUpperCase(Lname.chatAt(0)). Character represents the type of variable Letter 1 is. .toUpperCase() sets the value inside the brackets to uppercase letters. Lname.charAt(0) selects the first letter of the last name.

3.

```java
//conditional statement decides which group number the letter fits into
    if (Letter1 >= 'A' && Letter1 <= 'I')
        groupNumber = 1;

    else if (Letter1  >= 'J' && Letter1  <= 'S')
        groupNumber = 2;

    else if (Letter1  >= 'T' && Letter1  <= 'Z')
        groupNumber = 3;

    else

// Invalid last name
    groupNumber = -1;

// Display the final result
    if (groupNumber != -1)
     System.out.println(Fname + " " + Lname +" is assigned to group: " + groupNumber);

    else
        System.out.println("Invalid last name provided.");
```

Letter1 is used in if statements to see what group number it would fit into. If letter is A-I, group 1. If Letter is J-S, group 2. If letter is T-Z, group 3. First/last name as well as group number is printed in a separate if statement, if the groupnumber is a valid number. If groupnumber isnt valid, then an error message is printed. Groupnumber might become invalid if the last name that is entered isnt a correct input string.

End of Program!